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DEVELOPMENT OF OVERALL NATIONAL STATISTICAL CAPABILITIES

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DEVELOPMENT OF OVERALL NATIONAL STATISTICAL CAPABILITIES, INCLUDING ACTIVITIES RELATED TO NHSCP

Note by the secretariat

CONTENTS

	Page
Introduction	1
A. National Household Survey Capability Programme	1
B. NHSCP training programme in India	8
C. Dialogue between producers and users of statistics	11
D. Computer technology	15
E. Timely dissemination of statistics	18

INTRODUCTION

1. Three primary sources of statistics are administrative records, establishments and households. All three have to be tapped to build up statistics for use in administration, policy formulation, planning and research. Data based on administrative records are generated through the administrative process itself, whereas census and survey techniques are employed for collecting data from establishments and households. The process of building up the statistics needs planning, programming and allocation of resources, the objective being to develop a durable capability for collection, processing, analysis and dissemination of all kinds of statistics and statistical services to cater to the needs of all kinds of users. This in essence is the development of overall national statistical capability.

2. The development of that capability is a dynamic process. There has to be augmentation and upgrading of manpower resources in keeping with ever-increasing demands for more and more statistics covering new fields; physical resources need continuous replenishment and modernization to keep in step with technological advances; and organizational infrastructure needs strengthening all the time to enable statistical agencies to render the proper user services. Within the ESCAP region, a few countries have already attained a high degree of capability and self-sustained growth, some have acquired a moderate level of capability but need further development, and others are in the earlier stages of developing their national statistical capabilities.

3. Work is going on at national, regional and international levels to develop overall national statistical capabilities in this region. Many problems - organizational and technical - have come to light. In this paper some of these problems in a few selected areas are discussed so that ways can be found to accelerate the process of developing overall national statistical capability.

A. NATIONAL HOUSEHOLD SURVEY CAPABILITY PROGRAMME

4. After a period of preparatory work, NHSCP was formally inaugurated in 1979 as a global project of the entire United Nations family to help interested developing countries. Its aim is to build up enduring national instruments and skills so as to conduct continuing and integrated household sample surveys for the collection of socio-economic

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and demographic data. NHSCP is a data-collecting as well as a capability-building programme, the two being interrelated and complementary.

5. NHSCP is primarily implemented through country projects, which spell out in detail the proposed national survey programme, the infrastructure to be created or strengthened, the time-frame and the commitments of the national Governments and aid agencies in executing the projects. The statistical divisions of the regional commissions (ESCAP for the Asian and Pacific region) act as short-term technical advisory resource centres for NHSCP and co-ordinate the Programme at the regional level. The specialized agencies and bodies of the United Nations such as the United Nations Children's Fund (UNICEF), the United Nations Fund for Population Activities (UNFPA), the International Labour Organisation (ILO), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Health Organization (WHO) provide expert assistance in their respective fields through various arrangements. A Central Co-ordinating Unit in the United Nations Statistical Office is responsible for overall promotion, management and co-ordination of the programme.

6. In this region six countries are now operationally participating in NHSCP: Bangladesh, Mongolia, Pakistan, Samoa, Sri Lanka and Thailand. Bangladesh and Pakistan joined recently, in 1985. Sri Lanka and Thailand were the earliest participants, while six years after the initiation of the Programme, only six countries in this region are participating in it. This cannot be regarded as a satisfactory record of progress because it is known that many more countries in the region need to develop their household survey capability and through it their overall national statistical capability. It is difficult to reconcile this low participation rate with the general approval and support which NHSCP has been receiving from countries in various meetings and conferences. There have without doubt been certain constraints and impediments in the implementation of NHSCP and perhaps there is some inhibition on the part of countries to join it. Uncertainties about the availability of external aid for the survey programme and the long and tortuous process of negotiations with external donors for this purpose may have dampened the interest of countries in joining the NHSCP. Some of these problems are discussed in the following paragraphs, and the Committee is invited to consider and suggest ways by which NHSCP can be made more effective in this region.

7. The central issue in the implementation of NHSCP by the countries is the availability of funds. Household surveys are costly and when capability is required to be built simultaneously, a good deal of initial investment in personnel, material and infrastructural development becomes essential. It is well known that NHSCP has no funds of its own but the Central Co-ordinating Unit and the regional commission concerned attempt to help countries to mobilize the funds. In order to execute a national programme of household surveys, funds have to come from two sources: the Government and external donors. From the experience of some 23 countries participating in NHSCP all over the world, 75 per cent of funds come from the Government and the rest from external donors. The average assistance per country from external donors works out at $US 1,128,000 over a period of four to six years.

8. Whether government funds or external aid are involved, the key to the mobilization of resources is the emphasis and priority which the Government places on the survey programme. This is obvious for the allocation of Government funds, but requires some explanation in the case of external aid. External donors generally have a country programme budget which is a development aid budget for the country as a whole. Foreign assistance sought by a Government for any project, including a project for a survey programme, has to come from this budget. It is seldom that external donors provide separate funds for the survey programme over and above what is provided for in their country programme budget. Therefore, a survey programme project has to compete with many other projects, which are often of a more pressing, visible or otherwise "saleable" nature in the eyes of external donors - who will tend to have their own development aid priorities. It is clear, therefore, that a project for a survey programme will attract foreign aid only if the Government concerned places a very high priority on it.

9. It is for the national statistical office to ensure that the survey programme receives a sufficiently high priority of Government for funding purposes. The Central Co-ordinating Unit and the regional commission concerned can only act as catalysts in the whole process, particularly in identifying prospective donors and canvassing their support. The general experience is that where the national statistical office has been able to exert sufficient influence on the Government, mobilization of resources has been relatively easy. The questions which

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arise are why national statistical offices are often unable to obtain a high priority for the survey programme from their respective Governments, and what can be done to remove this primary hurdle. The status of the national statistical office is an important factor. The office should be in a position to make more prominent and determined efforts to advance the course of statistics development. The Central Co-ordinating Unit and the regional commission have been attempting to play a supportive role in these efforts by continually reminding the donors and the Governments about the importance of statistics.

10. The external aid component of the project is screened through several stages. First of all, potential donors have to be identified and here the Central Co-ordinating Unit can help through its standing liaison arrangements with most of the donors. Then the proposals have to be channelled to the country representatives of the potential donors through the appropriate department of government located variously in the ministries of planning, finance or foreign affairs. This is where the priority accorded by government to the survey programme project counts, because it has to compete with other projects requiring external assistance. Once this stage is passed, details of the assistance required have to be negotiated with the country representative(s) of the external donor(s), and a project agreement finalized. Next, the country representative(s) of the external donor arranges for the delivery of assistance in consultation with its headquarters. All these stages are time-consuming and there are uncertainties involved at every stage. This, however, is the normal process for receiving external aid, and the national statistical agency has to make the best of the situation through constant perseverance and vigilance. A considerable amount of paperwork is also involved in preparing project documents for external assistance and revising them from time to time according to ongoing negotiations. The Central Co-ordinating Unit and the regional commission are prepared to assist the national statistical agency in this work, and in most cases have drawn up the original project document in the format required by potential donors.

11. Sometimes it may not be possible to obtain all the required external resources for the survey programme from just one donor. In such a case the external aid requirements of the project proposals can be split into parts and submitted to several potential donors. The resources

obtained from more than one donor can then be pooled for the implementation of the survey programme. Co-ordination in such a case can be effected through the local UNDP office if the donors and the Government agree. Otherwise, the Central Co-ordinating Unit can make other suitable arrangements in consultation with the Government and the donors concerned. In several countries such pooling of resources from different donors has already been put into effect.

12. Another point in this connection is that a survey programme more readily attracts external aid if it is already operational. Therefore, it may be a good strategy for national statistical offices to start the survey programme - even on a modest scale - with whatever internal and external resources are readily available. They can simultaneously pursue efforts to secure additional resources and expand the programme when total requirements become available. In this case the project proposals for the survey programme can be prepared in two parts - the first to show operational plans and budget on the basis of readily available resources, and the second the desired programme and its budget with an indication of what additional inputs are required from Government and external donors respectively.

13. Some countries may be under the impression that NHSCP is intended only for countries which have practically no capability in survey-taking. This is not correct because, as mentioned earlier, the development of national statistical capability is a continuous and dynamic process requiring fresh inputs until the point of self-sustained growth is reached. Many countries in Asia have acquired reasonable capability and have established their own ongoing household survey programmes. They may seek further improvement of their capabilities through NHSCP, as a few have already done. Improvements sought may be on specific aspects of a survey programme, such as development of an integrated system of surveys, adoption of master sample systems, improvement of sample design, expansion of samples, improved cartography, reorientation of the conceptual framework, extension to new subject fields, addition of new equipment, modernization of data processing or printing facilities, analytical studies, staff development, etc. While the external aid needed in such cases may be marginal, being confined to specific items such as hardware, software, technical assistance, consultancy or training facilities, the benefits to the country survey

programme can be substantial. Developing countries which now have ongoing survey programmes outside NHSCP may consider joining the Programme on this basis. Their participation will also enrich NHSCP by making it possible to have wider arrangements for TCDC (technical co-operation among developing countries).

14. The present unsettled conditions in some countries in Asia may preclude the conduct of household surveys on a national scale. If the countries so desire, they may consider joining NHSCP through, for example, limited programmes of surveys in unaffected areas or with training and other capability-building measures which in due course can be expanded into full-fledged programmes, as discussed in paragraph 12. It is desirable to make a start as early as possible, because capability building is a long process.

15. The Pacific developing countries have a different set of problems. With their small population, household surveys are not as cost-effective as elsewhere and with their limited resources, the conduct of such surveys on a continuing basis may not be feasible in the smaller countries. A subregional household survey capability programme seems to be more appropriate. FAO is currently considering such a project for the development of agricultural and related statistics covering the Cook Islands, Fiji, Samoa, Solomon Islands, Tonga and Vanuatu. ESCAP intends to collaborate with this project to introduce an overall household survey capability programme for the subregion which will benefit the Pacific countries. The secretariat is also pursuing its efforts to create a Pacific subregional NHSCP team based at the ESCAP Pacific Operations Centre (EPOC) particularly through the proposed post of a data processing adviser.

16. One of the ways in which ESCAP has been trying to promote NHSCP in the region is by arranging seminars and expert group meetings which enable countries to exchange information and experiences on statistics development and survey methodology more frequently. With this end in view, and in accordance with the suggestions of the Commission and the Committee on Statistics at earlier sessions, the Statistics Division of ESCAP has formulated proposals for, among others, the following technical meetings:

(a) Expert Group Meeting on Developing Statistics of Household Economic Activities

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(b) Expert Group Meeting of Producers and Users of Statistics

(c) Seminar on Design and Evaluation of Household Sample Surveys

(d) Seminar on Statistics of Poverty and Income Distribution

(e) Seminar on Employment and Unemployment Statistics

(f) Pacific Subregional Seminar on Social and Related Statistics

The Expert Group Meeting on Developing Statistics of Household Economic Activities took place in September 1985, using UNDP programme support to SIAP; its report is before the Committee in document E/ESCAP/STAT.6/12. However, the constraints regarding resources already mentioned in the context of national survey programmes exist at the regional level too, and for the other meetings listed the funding position is still uncertain.

17. The same difficulty is being faced in strengthening the technical advisory services at regional and subregional levels for more effective implementation of NHSCP. The Statistics Division of ESCAP has identified a number of areas in which work would directly or indirectly support NHSCP, and has drawn up proposals for the following:

(a) Adviser on data processing for the NHSCP in the Pacific

(b) Regional adviser on sampling and survey methodology

(c) Development of social statistics through advisory services

(d) Regional adviser on cartography

(e) Regional adviser on migration statistics

While some of these proposals were submitted recently, others have been awaiting funding support for well over a year.

18. The ESCAP Commission, at its forty-first session held in March 1985, requested international agencies and bilateral donors to continue their generous support to NHSCP. The same sentiment was expressed by the United Nations Statistical Commission at its twenty-third session held in February-March 1985, which in addition made the following two specific suggestions:

(a) Donor agencies might earmark a small percentage of development aid for the promotion of data collection and the building up of the necessary infrastructure and skills, and arrange, in consultation with national authorities, for funds to be effectively used in building up statistical capabilities;

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(b) In view of the advantage of an integrated approach to data collection and use, donor agencies should, as far as possible, avoid the funding of ad hoc surveys to meet special needs.

The Committee may wish to comment on these two suggestions of the United Nations Statistical Commission. ESCAP intends to bear suggestion (b) in mind when assigning priority in the provision of regional advisory services in household surveys.

19. A global evaluation of the NHSCP under the auspices of the NHSCP Programme Review Committee is now in progress. The evaluation is being carried out by a team of three independent experts. The team is reviewing the progress made in implementing NHSCP and its overall impact in strengthening survey capability and data availability to the users. The members of the team will visit some of the countries participating in NHSCP in order to make an in-depth study of the problems and achievements. On the basis of their study, the evaluation team will recommend measures for possible improvements in the strategy and implementation of NHSCP. The deliberations of the Committee on Statistics on this subject will, therefore, be of great interest to the evaluation team. A further oral report on the progress of this evaluation will be given to the Committee.

B. NHSCP TRAINING PROGRAMME IN INDIA

20. The role of training in the development of overall national statistical capabilities is vital. Training has to be directed to the development of technical skills at all levels and also to management skills at higher levels. A substantial contribution is being made in this field by the Statistical Institute for Asia and the Pacific (SIAP); a report on the activities of the Institute is submitted in E/ESCAP/STAT.6/6. In the following paragraphs a special training programme organized in India since 1982 under the auspices of NHSCP is discussed.

21. The NHSCP training programme in India has been organized by ESCAP in collaboration with the Government of India and with financial assistance from UNDP. Its objective is to help countries of the region in having their statistical staff trained in household survey methodology and electronic data processing. The project tries to utilize regional

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expertise, in particular the long experience of the Indian statistical authorities, as part of efforts to build up TCDC. The centre for the training is located at the Central Statistical Organisation, New Delhi.

22. Details of the courses conducted so far under this programme are given below:

Subject-matter	Duration	Number of participants	Number of participating countries
Sampling and survey methodology	30 December 1982-4 May 1983	20	14
Electronic data processing	20 July-18 November 1983	13	10
Sampling and survey methodology	6 August 23 November 1984	18	14
Electronic data processing	5 August 22 November 1985	15	10

The 66 participants trained to date have been drawn from 20 countries of the region.

23. The project as originally envisaged was to comprise two courses annually over a two-year period, but the time-frame for the four courses was subsequently extended up to the end of 1985. After the first and second courses, an evaluation questionnaire was addressed to all the participants and their supervisors. Some useful suggestions were received and on the whole there was a strong desire for the continuation of the project. A tripatite review of the project was held in June 1984 and attended by representatives of the Central Statistical Organization of India, ESCAP and UNDP, New Delhi. In sending their comments on the project to the tripartite review, Governments of the region not only commended the progress of the project but in some cases specifically recommended its extension. The tripartite review consequently recommended that the project be continued for a further period of two years subject to the availability of funds. ESCAP has accordingly submitted a revised project proposal to UNDP for an extension of this regional project by another two years, that is, until the end of 1987.

24. The revised project proposal envisages that the training programme will continue to be held at the Central Statistical Organisation in New Delhi. Facilities for this purpose have already been

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established there and the Organisation has gained much experience in conducting the courses. During both 1986 and 1987 two courses of 16-week duration are planned - one on sampling and household survey methodology with emphasis on field work, and the other on electronic processing of data collected in household surveys. Each course will train about 18 persons. The selection of participants will be made by the Statistics Division of ESCAP and special attention will be paid to the needs of the least developed, land-locked and island developing countries of the region.

25. The curricula for the courses, time schedule for lectures and the selection of lecturers will be worked out by the Central Statistical Organisation in consultation with the Statistics Division of ESCAP, keeping in view the needs of the participating countries. The lecturers will be drawn mostly from the host country; however, efforts will be made to enhance the TCDC element of the project by obtaining the services of resource persons from other developing countries of the region. Some special lectures will be delivered by the regional advisers and other statistical and data processing staff of ESCAP. The expertise of the staff of the United Nations Statistical Office, particularly of the NHSCP Central Co-ordinating Unit, will also be available as and when convenient during their missions to the region.

26. The proposed courses will be complementary to those offered by SIAP. They will provide training in general aspects of household sample surveys and related data processing, whereas the SIAP advanced courses will take up more specialized and in-depth training on particular phases of surveys, for example, on planning, execution, evaluation and analytical techniques, and on specific subject-matter surveys.

27. With the aim of promoting TCDC in statistical development between the developing countries of Asia and the Pacific and those of West Asia and Africa, trainees from these regions may be included in the courses, provided training opportunities for countries in the ESCAP region are not adversely affected, class sizes do not grow too large and there is no additional financial burden on the project. There will be continuing evaluation exercises to improve the technical and organizational arrangements for the training programme.

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28. The Committee may wish to express its gratitude to UNDP and the Government of India for making this series of training courses possible. It may also wish to support the proposal for the extension of the project, and offer its comments and suggestions for improvement in the courses. At present, the NHSCP-related training needs of the region seem to be adequately served by the project. If, however, more countries join NHSCP in the future and there are greater demands for such practical training, the question of opening a second regional course of training in another developing country might be considered. The views of the Committee on this matter are solicited.

C. DIALOGUE BETWEEN PRODUCERS AND USERS OF STATISTICS

29. A system of continuing dialogue between producers and users of statistics is a necessary step for developing overall national statistical capabilities. All statistics are meant to be used and a large impact on the development of statistics must come from the users. Producers and users of statistics fall into two different categories, but in many instances the roles are combined or reversible. In general, producers of statistics are the statistical agencies primarily engaged in the collection, collation, analysis and dissemination of data. Users of statistics are the planners, policy makers and administrators in Government or parastatal agencies, local authorities, private business, industry associations, trade unions, and so on; researchers in universities and educational institutions; and private individuals. Producers of statistics should know the end-uses of data, the purposes for which they are needed and the nature of decisions likely to be based on them, so that they can plan and design efficiently the operations leading to the final presentation of statistics. Users of statistics have to know the source, scope and coverage of the statistics and their limitations and pitfalls, so that they can apply the statistics correctly to the problems at hand. Therefore, there is a common meeting ground between producers and users of statistics and the two must influence each other strongly to bring about the development of national statistics and statistical capabilities.

30. In actual practice, a gap is often found to exist between producers and users of data, particularly in the early stages of statistical development. Producers complain that when approached, users

are unable to indicate their exact requirements or specify clearly the purposes for which the statistics are required, and that statistics produced at great cost and effort are often unutilized or under-utilized. The users complain that statistics of the particular kind needed by them are often not available, the details presented do not suit their purpose, there is too great a time-lag in the production of data, and often the statistics are of poor quality and unusable for problem-solving and decision-making purposes. Some of the complaints on both sides may be genuine and underline the need for an effective interface between producers and users of statistics.

31. In the early stages of development, producers of statistics often have to anticipate the requirements of users following their own predilections, analogies with more developed countries, and international recommendations. To some extent this is unavoidable but if the statisticians do not check their plans and programmes with national users, the priorities, procedures and techniques may deviate from what is appropriate in the national context. The danger comes from the tendency of producers to operate on their own. On the other hand, users of statistics must become seriously involved in the attempts being made by producers to develop national statistics and statistical capabilities. They should take pains to outline their requirements as precisely as possible, examine critically the plans and programmes prepared by producers from a user standpoint, try to appreciate the constraints under which producers have to work and assist in the development process not only with ideas but also with resources, wherever possible; users sometimes do not fully appreciate the considerable costs involved in collecting information. The tendency on the part of users to sit back, wait for the statistics to be produced and then criticize them is not conducive to healthy development.

32. There is considerable debate as to how far the statisticians of producer agencies should go with their analysis and interpretation of data. Clearly they should avoid encroaching uninvited on the domains of users, but at the same time they should try to pass on to users the benefit of the statistical discipline and of the statistician's knowledge of the basic data and their limitations. Statisticians must, if they can, assist users in avoiding the drawing of conclusions which are unwarranted or unsubstantiated by the data. It has to be kept in view in

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this connection that users may be many and their needs diverse. It is convenient to distinguish between two major types of users, namely, those with a good knowledge and understanding of statistics and statistical tools for analytical purposes, and those with a weak background of statistics, including the lay public. The former require very detailed statistics - not only aggregates but also distributions, averages and other derivative measures - and full technical documentation of methods used and quality of results obtained. The latter need a set of basic tables with important results summarized in words together with a presentation of techniques, including quality assessment, in a language which is simple, clear and easily understood. Both these requirements have to be borne in mind in the presentation of statistics.

33. The minimum requirement is that for any statistics published, there should be a clear and precise indication of the quality to guide the users in correct application of the statistics. By way of illustration, the main topics, with brief annotation, included in a set of draft guidelines for quality presentation for general users of statistics, as considered by the Conference of European Statisticians, November 1983, are presented below:

(a) Data source and definitions (method of data collection, time-period, concepts, definitions).

(b) Coverage of the data (census of sample, quality of frame, coverage errors).

(c) Field procedures, survey design and estimation methods (essential aspects and factors affecting results).

(d) Response rates (measures, if any, for compensation or adjustment for non-response).

(e) Sampling errors (as far as possible quantitative estimates like standard deviations or confidence intervals).

(f) Major types of errors (size and direction, relative importance and impact on results).

(g) Comparability over time (factors affecting comparability).

(h) Comparability with other statistics (possible difficulties).

(i) Availability of supplementary information relating to quality (references to other material or publications).

34. The need for closer co-operation and greater understanding between producers and users of statistics was discussed at the international level by the United Nations Statistical Commission at its twenty-first session in 1981 and also at its twenty-third session in 1985. At the regional level, the ESCAP Committee on Statistics, at its fourth session held in June 1981, endorsed the idea of holding a high-level expert group meeting of producers and users of statistics to discuss the issues involved and recommend solutions. The ESCAP Commission at its fortieth session held in April 1984, strongly supported the idea, but owing to funding difficulties it was not possible to hold the expert group meeting. At its forty-first session, the Commission reiterated its strong support for the meeting and urged the secretariat to seek the necessary financial support. The Statistics Division accordingly resubmitted a proposal to hold the expert group meeting in 1986, depending on the availability of funds. The ESCAP Project Review Committee, in generally considering the project for extrabudgetary funding, suggested that the secretariat's initial role should be to arrange meetings between producers and users of statistics at the national level, especially in countries which desired such meetings. The Committee also suggested that the funds required to convene those meetings might come from each country's UNDP assistance. A regional expert group meeting could perhaps follow at a later stage. The Committee's views on this rather new approach are specifically invited.

35. In the final analysis, action to promote an effective dialogue between producers and users of statistics rests at the national level. An institutional framework, such as a high-level committee of producers and users, to screen, review and monitor statistics development plans with smaller sub-committees or technical working groups to look into specific problems, is an essential step. However, unless such an institutional framework is enthusiastically supported and serviced by the national statistical agency on a regular basis, it is likely to fall into disuse. Effective publicity for statistical activities being undertaken is another way of establishing links between producers and users of statistics. Standard publicity campaigns for censuses and surveys have the limited objective of securing the co-operation of respondents. They should be viewed in the wider perspective of generating interest among users, including the general public, and making them better informed about ongoing statistical activities and the likely products. This is

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necessary because the totality of users of statistics is often not known and cannot be easily identified. Arranging periodic national seminars, with the participation of users, on census and survey programmes and results is also extremely useful in establishing a good rapport among producers and users of statistics. Here the approach can be more technical. The producer agencies may submit papers on methodology, content and results of censuses and surveys with an explanation of the rationale and the critical factors. The users may be called upon to discuss the papers from their own angle, that is, the purposes for which they require the statistics, to what extent the statistics are able to meet their requirements and what they think should be done to make the statistics more user-oriented.

D. COMPUTER TECHNOLOGY

36. Development of overall national statistical capabilities should ensure that there is a smooth and regulated flow of work from planning and design to data collection, data processing, data analysis and finally to dissemination of statistics. A delay at any of the intermediate stages means that the final output of statistics is held up, affecting much of their usefulness. In this process, data processing is found to be a vulnerable intermediate stage with the volume of data collection often far outrunning the capacity for data processing. Without doubt there have been tremendous technological advances in the field of data processing during the last three decades, but adaptation of the latest technology to the conditions of developing countries continues to pose problems. An interesting development in this regard is that the Economic Commission for Europe (ECE) is executing an UNDP-funded project on statistical computing, the objective of which is to transfer the output of software development activities to developing countries. This project is described in document E/ESCAP/STAT.6/5, which is before the Committee.

37. Many of the larger developing countries have well-established mainframe computer facilities, although their location in some instances outside the national statistical office has created difficulties. A shortage of qualified and trained manpower and the communication gap between subject-matter statisticians and computer personnel are among other problems being encountered. Data entry remains a bottle-neck in some countries. While the smaller countries would also like to acquire

powerful electronic data processing equipment, the problems of physical, financial and manpower resources are more acute in those countries. Overall, the expected quantum leap in reducing the time taken for processing large volumes of data with the help of computers has not yet taken place in most developing countries. At the same time, data collection activities have been increasing by leaps and bounds.

38. The recent advent of micro and personal computers has opened up new possibilities, although mainframe computers will still be needed for handling large volumes of data collected, say, in population censuses. Micro and personal computers can take over all the tasks, for example, data entry, edit, processing, analysis, report-writing and printing, for a relatively small survey or mini-census. They can be used for decentralization of some of the tasks for larger surveys or censuses. They can be linked to mainframes for performing supplementary tasks. Also, with a little training, statisticians can handle micro and personal computers independently at their own desks. Thus, micro and personal computers have several advantages, and for smaller countries they often provide a viable alternative to mainframe computers.

39. Hardware (micro and personal computers) based on microprocessor technology is now available at a relatively low cost. Furthermore, costs are expected to continue to decline in the foreseeable future. On the other hand, the development of software programmes is rapidly becoming more expensive. Software is becoming by far the larger cost component of computer systems, a trend benefiting those developing countries with sufficient skills in software development.

40. Among major difficulties in the introduction of microcomputers, there are at present numerous manufacturers and vendors of this type of equipment, even with the recent shake-out in the market. Most of them do not offer maintenance, training and support facilities, particularly in smaller countries. Development of statistical software has lagged behind and available software is often compatible with only a limited number of the numerous brands of machine in the market. However, a number of suitable software packages for statistical applications are currently being developed in the United Kingdom of Great Britain and Northern Ireland, the United States of America, and elsewhere.

41. Taking into account problems such as these, the Commission at its forty-first session agreed with the secretariat on the need for a

rational approach to the selection and utilization of microcomputers. It also recognized that, individually, many developing countries of the region lacked the resources to benefit effectively from the fast-evolving microcomputer technology. The Commission thus endorsed a regional approach through, for example, a programme offering training and support to managers, computer users, programmers and service technicians from national statistical offices. Such a programme would involve information clearing-house and limited software development activities for microcomputers.

42. Following the recommendations of the Commission, the Statistics Division of ESCAP has submitted a proposal for a regional computer training programme in statistics as a potential project topic for the fourth UNDP programming cycle starting in 1987. The proposal envisages four training seminars for managers and senior statisticians, and six training courses for EDP personnel and statisticians during the period 1987-1990, using the facilities available at the Regional Computer Centre of the Asian Institute of Technology (AIT) near Bangkok. The proposal also envisages the setting up of a regional clearing-house for the promotion of transfer of scientific knowledge and technology on the statistical application of computers, especially microcomputers.

43. As mentioned earlier, the Statistics Division of ESCAP is pursuing proposals for strengthening the advisory services for the Pacific subregion by the addition of a data processing adviser at EPOC. This adviser is expected to attend to the special and immediate problems in data processing and computer training for countries in the Pacific subregion particularly in connection with the processing of household surveys. While unfortunately it has not been possible to obtain funding for this post so far efforts are continuing.

44. Through these and other steps, such as the continuation of the NHSCP-related EDP training courses in New Delhi and the SIAP data processing courses, the secretariat has planned a series of programmes for the development of national capabilities in statistical computing in the region. The implementation of the programmes will depend on the availability of funds. The Committee may wish to review the overall situation and indicate its views and suggestions.

E. TIMELY DISSEMINATION OF STATISTICS

45. The United Nations Statistical Commission, at its twenty-third session held in February-March 1985, considered the following issues in regard to the dissemination of statistics: (a) meeting user needs for, and improving the dissemination of, international statistics; and (b) publication policy for statistics.

While the discussions in that session were mainly in the international context, the issues are highly relevant at the national level where the primary statistics are generated. Therefore, the two basic ideas, that statistics should be available with a minimum time-lag and that they should be directed towards meeting the needs of users, are discussed in this section in the national context. The publication policy for regional statistics is the subject of a separate document, E/ESCAP/STAT.6/19.

46. There are various ways of disseminating statistics, for example, through printed publications, computer print-outs, microfilms and microfiche, computer-readable media, such as magnetic tapes or floppy discs, and direct electronic access to information held on a computer base. For most developing countries of the region, the conventional printed publication remains the typical means of dissemination, although the utilization of other media is rapidly increasing. For maximum effect and benefit to users, statistics need to be made available as quickly as possible, that is, as close as possible to the reference period. This means that the data, after processing and tabulation, should be analysed and prepared for presentation in the form of tables and narratives, according to plans already prepared for the purpose, for publication as expeditiously as possible.

47. Plans and arrangements for analysis and presentation of statistics should be laid much in advance to avoid delays in the dissemination of statistics. In fact, they should be prepared even at the stage of planning for data collection, and taken into account in the design of schedules and questionnaires. Further, the plans should be based on the needs of the users, and very often on an anticipation of the needs. In most developing countries, the capabilities of users in applying the statistics to practical problems are also in the process of development. Therefore, statisticians connected with the production of data have to assume greater responsibility in their analysis and presentation.

48. Keeping all the requirements in view, it is clear that timely dissemination of statistics is a manifold task. Timeliness and content are both important, and so are numbers and words. In this context, possibilities for producing preliminary or provisional statistics before final results become available, releasing important statistics before more detailed tabulations are produced, or publication of basic tables with explanatory notes before analysis of the data is completed, have to be carefully considered in the situation prevailing in each country. Sometimes dissemination of statistics, particularly relating to surveys, is inordinately delayed because everything, that is, background, objectives, methodology, quality assessment, tables, analysis and commentaries, is included in one report. It takes a long time to prepare such a report and then to print it. When it reaches the hands of the users many of them become disillusioned because the statistics have become outdated and much of the report does not cater to their selective needs.

49. It is best to plan publication of results of surveys in different stages and through separate bulletins or reports, taking into account various types of users and their requirements. Such a scheme is presented below for discussion purposes:

(a) First of all a short bulletin may be released explaining the main features of the survey, important limitations of the data and a summary of conclusions and findings based on the results. The presentation will be mainly in the form of a narrative in popular style with a few tables highlighting the results. The object should be to reach non-technical administrators, policy makers and public leaders.

(b) Next, a technical report on the survey may be published describing the objectives, scope, concepts, definitions and methodology of the survey, including quality presentations with full documentation. This report may also include some basic tables and their analysis, depending on what tabulations are available at the time. This report will be meant primarily for professional statisticians, subject-matter specialists, researchers and other users with a good knowledge of statistics.

(c) A third publication may comprise a general report covering a description of the survey, including methodology and quality

presentation, in non-technical language as far as possible, a simple analysis of the statistics and the full tabulations. For more technical details, reference should be made to the earlier report. This publication will cater to the needs of general users and provide access to complete results of the survey for professional users also.

(d) In addition, there may be one or more monographs presenting a deeper analysis of the statistics, directed to specific issues arising in planning and policy-making. If necessary, preparation of such monographs can be entrusted to research institutes or universities outside the producing statistical agency. The monographs may contain special tabulations of data relevant to the issues examined. The monographs will be meant primarily for planners and for statisticians engaged in the decision-making process.

50. Some suggestions have been made in this section, for the consideration of the Committee, for rationalizing the process of publication of statistics, particularly the results of surveys, and making them more timely and user-oriented. There are, of course, impeding factors, for example, inadequate funds, unavailability of trained personnel, shortage of equipment, undeveloped institutional infrastructure and difficulties in advance planning and programming. All these problems have to be addressed in the process of developing overall national statistical capabilities.

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